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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/024,814

12/18/2001

David L. Graumann

884.603US1

6114

8791

7590

10/30/2006

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EXAMINER

MEI, XU

ART UNIT

PAPER NUMBER

2615

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/024,814	GRAUMANN, DAVID L.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Xu Mei	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-2, 4-8, 10-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11, 23-25 and 27 is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-7, 12-22, 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/24/2002</u> | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This communication is responsive to the applicant's amendment dated 07/24/2006.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-7 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Mangold (DE-2554229).

Mangold discloses an apparatus (see Figure and English Basic Abstract), comprising: an enclosure (cylindrical cap) having an opening (aperture on top), and a light-emitting device (light source located on the bottom inside of the cap) inside the enclosure, wherein the light-emitting device is placed such that an angle theta between a top surface of the light emitting device and a projection line drawn from an edge of the opening to an opposite edge of the light-emitting device enables light emitted through the opening to be visible to a speaker only when the speaker's mouth is within a sensitivity region (optimum region of reception) a microphone (see Figure). And the enclosure or cap for housing the light-emitting device has sloped sides (90 degree slope, as per claim 2). As for claims 4 and 12, the opening as shown in Figure is

Art Unit: 2615

asymmetrical since one side of the enclosure is bigger than the other when measure from the edge of the opening to the sides of the enclosure.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mangold.

Regarding claim 26, Mangold discloses the microphone apparatus having a light-emitting device as discussed in claim 1 above. However, Mangold fails to disclose the walls of the enclosure being coated to absorb light. It is known that light absorbing materials and/or films used in microphones were well known in the art. Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Mangold by implementing a light absorbing material or film for the purpose limiting the visibility of the lights reflection.

5. Claims 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mangold in view of Rung (US-6,526,147).

Regarding claims 13, Mangold disclosed the microphone apparatus as discussed in claim 12 above. What does Mangold not teach is a microphone array is being used. However, it is old and well known in the art that microphone array is common used for audio signals sensing for its accurate directional receiving purpose. Rung discloses a microphone array (see Fig. 1) that being mounted in a housing (10), wherein the microphone has visual indication function, which is visible through an opening (12) via a light source (11), wherein it is obvious that the opening is only visible to a speaker when the speaker's mouth is within a sensitivity region of a microphone in respect the position or angle of the microphone (Fig. 6 and col. 6, lines 5-27 and col. 8, lines 19-32). It would have been obvious to one of ordinary skill in the art to modifies the microphone apparatus of Mangold with a highly directional microphone array as taught by Rung in order to provide an improved microphone device with highly directional property for accurate signal receiving.

Regarding claim 14, Rung discloses everything claimed as applied above (see claim 12). However, Rung fail to disclose a time delay estimation. It is old and well known in audio art that time delay estimation is used for signals sensing using microphone array. Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Mangold and Rung by incorporating time delay estimation for the purpose of adequately determining the time need to effectively process a plurality of microphones, wherein the arrival time of signal to each microphone differs.

Regarding claims 15-22, the combination of Mangold and Rung discloses everything claimed as discussed in claim 13 above with the exception of disclosing the plurality of applications and/or devices in which the microphone for input, as claimed. However, it is old and well known in the art that such microphone applications are being used in much way for acoustic signals sensing and processing. Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to utilizes the improved microphone apparatus taught by the combinations of Mangold and Rung as discussed above by incorporating such various microphone applications and/or multimedia type devices with microphones for the purpose implementing various and diverse convenient ways of using the microphone for communication purposes.

***Allowable Subject Matter***

4. Claims 8-11, 27 and 23-25 are allowed.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bodley et al is made of record here as pertinent art to the claimed invention. Bodley et al discloses a microphone array including a light-emitting device for visual indication.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP


§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is 571-272-7523. The examiner can normally be reached on maxi flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Xu Mei  
Primary Examiner  
Art Unit 2615  
10/22/2006